Ownership Structure and the Choice of SEO Issue Method in the UK

Abstract

This study analyses the role of ownership characteristics in a firm's choice of alternative seasoned equity offering methods, offer price discounts and market reactions to such announcements within the UK setting. Our study examines 697 seasoned equity offerings events of firms traded in the UK during the period 1998 to 2012 using multivariate and binomial logistic regression models. Ordinary least square models are also used to examine how ownership variables affect offer price discounts and stock market performance during the announcement of such corporate events. We show that placings and open offers are the preferred methods for issuing equity by firms with higher managerial ownership. Thus, our evidence strongly supports the prediction of the entrenched management hypothesis. Moreover, the probability of choosing a combination of placings and open offers is also found to be significantly related to issue size, offer discount, leverage and previous stock performance. Our results show that pre-issue market conditions have a significant effect on the choice of issue method with rights offers and the combination of placings and open offers primarily utilised by firms for issuing equity during hot market periods.

1. Introduction

In recent years, there has been increased academic interest in the link between ownership structure and seasoned equity offerings (SEOs). Chemmanur et al. (2009) find that institutional owners appear to be better at identifying above-average SEOs, since evidence shows increased share allocation for institutional shareholdings in SEOs with better long-term market performance, indicating a possible information advantage. This evidence is corroborated by Demiralp et al. (2011), who find a positive relation between institutional ownership and long-run stock price performance. They also provide evidence of great improvements in the operating performance of SEOs with higher institutional ownership, further supporting the positive role of monitoring in the context of SEOs. As theory suggests, the monitoring of management can constrain potential opportunism in corporate policy decision making (managerial entrenchment).

Furthermore, firms with active monitors tend to choose the issue method that maximizes shareholder interests. For example, as Shleifer and Vishny (1986) suggest, the use of placings (PLs) as a method of equity issue can strengthen management's monitoring by creating large shareholders with an incentive to monitor. However, if the firm already has suitable monitors, the benefit of adding one more through a PL will be lower. In this case, the probability of firms implementing SEOs by means of PLs is expected to decrease. Nonetheless, PLs can mitigate the problem of managerial moral hazard by raising the probability of a value-increasing takeover (Shleifer and Vishny, 1986; Wruck, 1989). Eckbo and Masulis (1992) argue that instead of PLs the use of rights offers (ROs) may fully solve the underinvestment problem if all existing shareholders exercise 100% of their rights. However, it becomes costly to issue equity through an RO with lower shareholder participation, especially for an undervalued firm, due to wealth transfers from existing shareholders to new shareholders. Hertzel and Smith (1993)

propose private placements as a solution to this possible underinvestment problem. They argue that a private PL is a value certification from informed investors. The informed investor confirms firm value by agreeing to purchase a large fraction of new shares. Barclay et al. (2007) find that private placements can assist management in reinforcing their control of a firm, the rationale being that this issue method choice is often made to friendly investors who will not 'rock the boat', leading to a more entrenched management.

In contrast to US studies, prior research on UK SEOs has mainly focused on the choice of method used to issue equity, such as ROs and PLs, as well as the market reaction to the announcements of these SEOs. For example, Slovin et al. (2000) find that an RO has a significantly negative effect on a firm's stock price, while a PL has a significantly positive effect[1]. Using a different sample period, Barnes and Walker (2006) provide significant evidence of a relationship between issue method choice and ownership type with increased institutional ownership being associated with the decreased probability of a PL and increased directors' ownership being positively related to the use of PLs. These results generally fit neatly into the literature on information asymmetry issues within the context of SEOs.

However, no study so far has examined the link between alternative SEO methods and ownership type within the UK especially with regards to the use of the non-standard approaches of open offers and the combination of placing and open offers. Our study fills this gap by examining the choice of alternative issue methods, including i) ROs, ii) PLs, iii) open offers (OOs), and iv) OOs combined with PLs (PLOOs), and how these are related to a firm's ownership structure. Furthermore, we extend Barnes and Walker (2006)'s paper by testing the effects of ownership structure on the price setting and announcement returns of SEOs. Our results show that PLs are the preferred method for issuing equity by firms with higher managerial ownership and the most likely SEO choice for firms with lower institutional

[1] A comprehensive discussion of prior empirical evidence on RO in the US and UK is given by Armitage (1998).

ownership that aim to improve monitoring. This evidence strongly supports the prediction of the entrenched management hypothesis. Furthermore, the probability of choosing a PL is found to be significantly related to issue size, offer discount, and previous stock performance. For example, firms with smaller offer sizes, higher discounts, and better stock performance are more likely to use PLs. Interestingly, our results also suggest that pre-issue market conditions have a significant effect on the choice of issue method. A placing is the first choice for firms that conduct SEOs in a 'cold' market but is less likely to be chosen in a 'hot' market. This result supports the argument that firms are willing to conduct equity issues when they are overvalued[2]. Moreover, our findings on the influence of ownership structure on the link between the SEO price-setting process and subsequent announcement returns suggest a positive relationship between managerial ownership and SEO discounts, evidence consistent with the private benefit prediction of the controlling hypothesis[3].

The remainder of this paper is organized as follows. Section 2 presents a brief theoretical background and introduces our testable hypotheses. Section3 describes the data and methodology, while section 4 discusses the main findings from the empirical results. The study concludes in section 5.

2. Theoretical Background and Development of Hypotheses

In practice, UK firms making a seasoned equity offer can choose from four flotation methods: ROs, PLs, OOs, and PLOOs. Both ROs and OOs give existing shareholders pre-emption rights

[2]Existing literature suggests that a hot market is highly associated with overoptimistic investors and overvalued equity (Baker and Wurgler, 2002). Given the argument that using a PL is a proxy for value certification (Hertzel and Smith, 1993), SEOs in a hot market are then more likely to be motivated by firm overvaluation.

[3]The controlling hypothesis suggests that a share's public float and market liquidity should decrease with the ownership of controlling shareholders (Rubin, 2007). Hence, such firms should offer a higher discount to compensate investors for investing in illiquid stock.

to purchase new shares in proportion to their existing holdings. However, unlike the case of OOs where the entitlement (pre-emption right) is not tradable and therefore available only to existing shareholders, a RO allows existing shareholders to sell these rights to other investors if they do not want to exercise any or just part of their pre-emption rights. This pre-emption right in a RO and an OO aims to protect existing shareholders' wealth and control. Alternatively, in a PL, the lead underwriter or broker commits to buy all of the new shares from the issuing firm at a given price and then places the shares directly with outside investors, primarily institutions. Therefore, a placing can induce a major ownership change, while ownership structure after a rights issue will be relatively unaltered. Most open offers in the UK are made in conjunction with a conditional placing, which is called a PLOO. Typically, in this type of offer, the shares are placed by an underwriter or directly with institutions or other investors, subject to recall for 21 days by shareholders that exercise their pre-emption rights[4].

To capture the different incentives of various investors, we propose two ownership variables, managerial share ownership and institutional ownership. To capture the incentives of entrenched managers, we apply managerial share ownership, defined as the sum of the ownership of executive and non-executive directors. Prior studies show that managerial ownership plays an important role in the choice of the share issue method. For example, the increased presence of outside blockholders that comes with both PLs and ROs may lead to enhanced monitoring to constrain the scale of managerial opportunism (Hillier and McColgan, 2008). As such, entrenched managers, unwilling to accept such monitoring pressure (Shleifer and Vishny, 1986) will more likely choose PLs as the method of issue as it allows management the flexibility to choose whichever blockholder they perceive to be in line with their own interests. Barclay et al. (2007) propose that this equity issue method is often made to passive

[4]A detailed discussion on the main characteristics of all ROs, OOs, PLs, and PLOOs is presented in Slovin et al. (2000); Cronqvist and Nilsson (2005); Wu and Wang (2005); and Barnes and Walker (2006).

investors, thereby helping management maintain its control of the firm[5].

To explore the role of institutional investors in the choice of SEO method, we constructed an institutional ownership variable. This is measured as the sum of the shares held by all institutional investors whose shareholding is over 3% of the firm's shares. According to the monitoring hypothesis, institutional ownership, as a proxy for the monitoring of management, plays an important role in corporate governance. In the SEO process, institutional investors are the major target in book-building activities. In the UK, PLs are the most common issue method that can create a monitoring incentive by adding institutional investors.

In this setting, a PL will be preferred when institutional ownership is lower. Based on the discussion above, we propose the following hypotheses:

Hypothesis 1a: *Firms with higher managerial ownership are more likely to choose a placing as the equity issue method.*

Hypothesis 1b: *Firms with lower institutional ownership are more likely to choose a placing as the equity issue method.*

Regarding the role of ownership in SEO discounts and announcement returns, managerial ownership concentration poses an extra risk for the new shareholder, which is the possibility of a combined case of managerial entrenchment with a large controlling interest. This could not only lead to lower market liquidity but also to high undiversified holding risk and therefore increased cost of equity(Barclay et al., 2007). In this setting, the offer price discount should be larger in such firms leading us to propose the following hypothese:

[5]Existing theory suggests that managers seek target investors, usually affiliated institutional investors, to participate in PLs. Such target investors should vote with managers on decisions of corporate policy, leading to a more entrenched management (Barclay et al., 2007; Armitage, 2010).

Hypothesis 2a: *Firms with high managerial ownership will price offers at a higher discount resulting in lower announcement return during the SEO event.*

Given the fact that institutional investors are one of the major investor groups, their role in SEOs has become an important question in academic research. According to the manipulative trading hypothesis (Kyle, 1985; Gerard and Nanda, 1993), institutional investors attempt to trade the stock strategically as they receive private information prior to a public announcement. Institutional investors may sell the stock when they receive positive private information and thus pre-SEO stock prices will fall, resulting in a higher offer discount. Although there is a reduction in value due to such short-term price manipulation before the SEO, institutional investors can benefit from the large allocation of new shares at the lower offer price and then sell these allocations after the SEO. In this case, SEO discount is intended to compensate uninformed investors, an outcome that is consistent with the 'winner's curse' hypothesis in the IPO allocation process (Rock, 1986). This hypothesis implies that institutional investor trading behaviour acts in the opposite direction to private information.

However, Chemmanur et al. (2009) find the opposite result, that institutional investors are likely to buy the issuing firm's stock before the SEO if they possess positive private information[6]. This result can be interpreted through the information production hypothesis. When institutional investors identify a good offer from private information, they have an incentive to participate in this offer and request more allocations. To lower the risk of SEO failure, institutional investors will provide the issuing firm or underwriter with information regarding market demand. Such information production effectively decreases the information

[6] By investigating the institutional investor's trading behaviour before and after the SEO, the authors found that the pre-SEO net buying of institutional investors is associated with greater SEO allocation and more institutional investors' post-offer net buying, where net buying is measured as total institutional buying minus the sale of the SEO firm's shares.

asymmetry between the issuing firm and its shareholders. This facilitates SEO price setting and the offer discount can be set at a reduced level.

According to the monitoring hypothesis (Shleifer and Vishny, 1986), institutional ownership, as a proxy for the monitoring of management, plays an important role in corporate governance. Higher institutional ownership can improve shareholder value by constraining managerial discretion to waste corporate resources through inefficient investment. Moreover, higher institutional ownership can partially resolve the free rider problem. All shareholders in the firm can benefit from active monitoring carried out by institutional shareholders, who have to bear the monitoring cost. Pre-issue institutional ownership suggests that potential monitors are already in place. Thus, new investors are more likely to subscribe for new shares from issuers that already have potential monitors in place[7]. Pre-issue institutional holding also suggests existing institutional investors are already familiar with the stock. Gibson et al. (2004) propose that institutional investors have better stock picking ability after finding that institutional holdings can separate above-average SEO firms from underperforming firms.

Since institutional investors have better information than individuals, higher institutional ownership implies that more informed institutional investors have put their stamp of approval on the firm's value. Thus, higher institutional ownership signals the better quality of the issuing firm, making it easier for underwriters to market the new offer at a lower discount. To address this expectation, we test the following hypothesis:

[7]Zhang (2004) demonstrates that new shares are easier to place when issuing firms have higher pre-issue institutional ownership. Huang and Zhang (2011) further find a negative relationship between pre-issue institutional ownership and the SEO offer price discount. Liang and Jang (2013) suggest that discounts in PLs serve as compensation for investor's costs of assessing firms, while abnormal returns around the announcement date reflect information about the quality of the firm. These latter findings are in line with the information hypothesis.

Hypothesis 2b: *Firms with higher institutional ownership will price offers at a lower discount resulting in higher announcement return during the SEO event.*

3. Data and Methodology

3.1 The Sample

Our study examines the SEOs of firms traded on the London Stock Exchange (LSE) from January 1998 through to December 2012. We use this research period because ownership data on UK firms only begin in 1997 in Thomson One Banker's database. Moreover, since regulation removed the restriction on the issue size of PLs in January 1996, UK firms in our research sample have more discretion to choose the SEO issue method.

Our sample excludes firms in the financial industry (Standard Industrial Classification (SIC) codes 6000–6999) and utilities (SIC codes 4900–4949), since these firms differ dramatically from firms in other industries in their financial reporting, structure, and management. Pure secondary and joint issues are also excluded, following the methodology of Slovin et al. (2000). To avoid possible skewness on our findings due to a large number of small issues been present in our sample, we exclude all issues with proceeds of less than £1 million. The data on issue characteristics and ownership information were initially obtained from Thomson One Banker's database. The items relating to each issue include the announcement date, the offer date, the closing price one day prior to the announcement date, the offer price, the number of shares in the offer, and the issue method. Ownership data include each firm's investor types, investment style, and shareholder equity holdings. Finally, the daily stock price data and financial statement data are from Thomson's Datastream database.

After the exclusion of issues with incomplete data, our final sample consists of 697 seasoned equity issues, distributed over 15 years, and their issue methods, as shown in *Table 1*. The whole sample of SEOs is categorized into four subsamples by issue type: ROs, PLs, OOs, and

PLOOs. *Table 1* also reports the trends in SEO issue methods over our sample period. Listed UK firms conducted 697 SEOs over the period 1998–2012, with 162 ROs, 308 PLs, 63 OOs, and 164 PLOOs. There is a general surge in SEOs during 1998–2001. However, the number of SEOs dramatically falls to 36 in 2002, followed by resurgence during 2002–2005. The number of SEOs reaches its highest level of 142 issues in 2009. A potential interpretation for this pattern is the market conditions over the sample period. The increased SEO activity of the period 1998-2001 is explained by the impact of the dotcom bubble and the persistent overvaluation of shares in those years, followed by a correction in share prices after the burst of the bubble in late 2000 and the after effects of September 11 2001. In contrast, the trend in issuance activity in the latest years is driven by the 2007-2009 financial crisis where financially distressed firms prefer equity to debt to raise additional capital following the shortage of liquidity in the money and capital markets. It is clear that PLs are the dominant issue type in our sample, 44.189% of all issues considered here.

(Please insert Table 1 here)

This finding is consistent with the evidence of Capstaff and Fletcher (2011), who find the proportion of PLs to be highest in UK SEOs during 1996–2007. During 2008–2010, we find that almost all UK SEOs were conducted via PLs, with 81.25%, 69.014%, and 76.786% of total issues in each of those years. This was mostly driven by the financial crisis and the loss of market confidence, as shareholders were unwilling to subscribe for new shares in an RO and

OO were just too risky and time consuming when capital was needed instantly by the firms[8].

3.2 Model Specification

This paper investigates which factors determine the choice of SEO issue method, price discount and SEO announcement return. In addition to ownership variables, we also examine the explanatory power of quality-related variables, including offer size (Proceeds/MV), SEO price discount (Discount), the natural logarithm of market value (Size), three measures of growth opportunity (ROE, MV/BV, Leverage), a measure of pre-announcement returns (PastR) and a proxy for market conditions (MCond).

The hypotheses H1a and H1b propose that the distribution of equity ownership among managers and institutional investors can influence the probability of a firm choosing an RO, a PL, an OO or a PLOO. These hypotheses are tested by using a standard logistic regression and a binomial logistic regression respectively. In the basic logistic regression, the dependent variable takes the value of one if a firm chooses an RO (PL/OO/PLOO) and of zero for a firm choosing other issue types. The model is specified as:

$$RO/PL/OO/PLOO = \alpha + \beta_1 Proceeds/MV + \beta_2 Discount + \beta_3 MSO + \beta_4 InstitutionalOC + \beta_5 Size + \beta_6 ROE + \beta_7 MV/BV + \beta_8 Leverage + \beta_9 PastR + \beta_{10} MCond \quad (1)$$

where, Proceeds/MV is defined as the SEO offer amount divided by the market value of equity, which acts as a proxy for offer size. This variable is expected to have positive (negative) effects on the probability of a firm choosing an RO (PL) (Corwin, 2003; Barnes

[8]A characteristics example of this loss in shareholders' confidence is the case of HBOS's rights issue in 2008 which was not taken up as the share price was falling continuously once the financial crisis had struck. Shareholders were unwilling to take on instant losses. Placements were the only possible issue method at that period as institutional investors were the only possible source of cash given the lack of available bank financing and shareholder refusal.

and Walker, 2006). Information cost theory suggests that a larger offer is associated with higher information cost. In this setting, larger SEOs are expected to be sold at a higher discount, resulting in lower announcement returns (Asquith and Mullins, 1986; Altinkilic and Hansen, 2003; Corwin, 2003).

Discount is measured as $1-\left(OP_t / P_{t-1}\right)$, where OP_t is the offer price at time *t* and P_{t-1} is the closing market price on the last day prior to the announcement day. The SEO discount is an indirect cost for firms of issuing new shares, based on uncertainty about firm value, gathering information, and marketing the new shares (Altinkilic and Hansen, 2003). Price impact is larger for ROs than for PLs, because in the latter case the offer discount can be lowered by the underwriter's market effort (Rinne and Suominen, 2009).

As a proxy for managerial entrenchment, MSO is defined as the percentage of a firm's outstanding shares owned by all executive and non-executive directors. Institutional OC is constructed by the proportion of equity owned by institutional blockholders that own a minimum of 3% of the firm's outstanding shares held by all institutional investors.

Size is calculated as the natural log of market valuation. This variable is used as a proxy for uncertainty and asymmetric information. Firms with higher information asymmetry are more likely to choose a PL over an OO, because PLs can reduce information production costs (Chemmanur and Fulghieri, 1999). To ensure the success of an equity issue, the issuing firm must provide information to the public and attract larger numbers of investors to purchase new shares in the public offer. However, a PL only involves target investors, typically one or a small numbers of investors. Therefore, given the level of information asymmetry, a PL incurs lower information costs than an OO[9].Moreover, smaller firms are expected to sell the shares at a

[9]Wu (2004) finds that private placement firms have more information asymmetry than public offering firms, evidence further corroborated by Gibson et al. (2004) and Chemmanur et al. (2009).

larger discount in an SEO, as they are likely to be associated with more uncertainty and higher levels of asymmetric information than larger firms (Corwin, 2003; Wu and Wang, 2005).

Three variables are used to control for growth opportunity: market-to-book ratio (MV/BV), the return on equity (ROE) and leverage. The level of uncertainty about firm value increases as the value depends largely on growth opportunities (Cronqvist and Nilsson, 2003). From this perspective, issuers with a higher MV/BV ratio, higher ROE and higher leverage are expected to have a higher discount to ensure the success of the offering, resulting in lower announcement returns. Moreover, the market-to-book ratio can also be interpreted as a measure of overvaluation, which is highly related to equity issuing activity (Baker and Wurgler, 2002). Overvalued firms are more likely to choose an RO over a PL, because placing investors can assess firm value through their negotiations with issuers (Hertzel and Smith, 1993). On the other hand, undervalued firms use PLs to affirm their firm value (Eckbo and Masulis, 1992; Cronqvist and Nilsson, 2005; Barnes and Walker, 2006).

PastR is calculated by the pre-announcement stock performance (-60,-2), CAR acting as a proxy for the market's assessment of firm quality and further investment potential. Issuers with better past performance have a reduced adverse selection problem, could bring new issues to market at a lower discount by means of a placing, and receive higher announcement returns (Barnes and Walker, 2006). MCond is calculated by the pre-announcement market returns (-60,-2) as a proxy for market conditions.

Then we employ two ordinary least squares regression models to examine how ownership variables affect the offer price discounts. These models are algebraically formulated as:

$$\begin{aligned} Discount = {} & \alpha + \beta_1 Proceeds/MV + \beta_2 MSO + \beta_3 InstitutionalOC + \beta_4 Size \\ & + \beta_5 ROE + \beta_6 MV/BV + \beta_7 Leverage + \beta_8 PastR + \beta_9 MCond \end{aligned} \quad (2)$$

where, all variables are described earlier in this section.

3.3 Descriptive Statistics

Table 2 presents the mean values of the key issue and firm characteristics for the whole sample, as well as for the four subsamples of SEOs by issue type. According to Panel A, capital proceeds average £104.991 million for ROs and £84.479 million for PLs. This finding suggests that PLs raise considerably less capital than ROs do, consistent with the findings of Barnes and Walker (2006). The average RO discount is 17.85 %, which is close to the findings of Armitage (2002) and Capstaff and Fletcher (2011), 21% and 21.56%, respectively. Moreover, the mean offer discount on an RO is the highest among the four issue types. This indicates that issuers choosing ROs set the offer at a lower price to guarantee the success of the issue; by contrast, the lowest price discount occurs for PLs, with an average of around 8.35%. These results are consistent with the restrictions of the LSE with regards to the use of a PL as an issue method choice. Since a placing is an invitation to outside investors, the wealth of existing shareholders is more likely to decline and dispersion in post-issue equity holdings is likely to be greater than in the case of rights issues. To limit such a dilution in ownership, the LSE listing rules stipulate that issue proceeds in a placing cannot exceed 5% of the market value of the current share capital, unless the excess is approved by the shareholders in an extraordinary general meeting with a majority of 75% of the votes. The 5% limitation is relaxed to 10% for shares issued as part of a vendor placing, and the offer size of the PL is restricted to 5% of the existing capital in any one year and 7.5% in any three years (UK Listing Authority, 2000). The offer discount in a placing is limited to at most 10% of the middle market price at the time of the PL. Burton et al. (2000) state that existing shareholders generally vote against any proposed share issues as a

result of their pre-emption rights,[10] especially when the proposed discount is higher than 5% of the middle market price in reaction to the SEO announcement.

Panel B of *Table 2* reports descriptive statistics for firm variables in the SEOs. It is notable that PL issuers have the highest average managerial ownership, at 12.23%, while lower managerial ownership is found for rights-preserving issuers (6.42% for RO, 5.07% for OO respectively). Another important finding is that the mean institutional ownership in rights issuers is larger than for other issue types. This means that ROs cluster more in firms with higher institutional ownership.

（Please insert Table 2 here）

We now focus on the other firm variables. The average firm size that is measured as the market value of equity is higher for RO issuers than for PL issuers (£889.75 million versus £811.93 million). It is interesting to note that the largest average firm size is that of PLOO issuers, around £1,267.43 million. This finding suggests that PLOO issuers cluster more in larger firms. We also find that rights issuers have higher returns on equity and higher leverage levels in comparison to other issuers.

4. Empirical Results

[10] Both ROs and OOs give existing shareholders' pre-emption rights to purchase new shares in proportion to their holdings and new shares are offered to other investors only if existing shareholders do not exercise any or just part of their pre-emption rights. Thus, ROs and OOs are also called pre-emption issues. However, a placing is a non pre-emption issue in which the seasoned shares in the PL are sold at a fixed price to outside investors. Pre-emption rights are a principal mechanism to protect shareholders from dilution of their wealth and control in the firm, cemented in UK Company Law and the LSE listing rules.

To analyse the probability of a firm choosing various SEO issue methods, we conducted the logistic regressions shown in *Table 3*. We modelled the decision to issue an RO, PL, OO, or PLOO and the results are reported in panels A to D respectively. The dependent variable is defined as a binary variable that takes the value of one if the firm chooses one of the methods over the others and of zero otherwise.

In Estimation 1, the value of the dependent variable equals one if the issue is conducted through a RO and zero if the issue is conducted by means of another issue method. We find the coefficients of *Proceeds/MV* and *Discount* to be positive and significant. This result suggests that the larger the issue and the higher the offer price discount, the more likely the firm conducting the SEO will choose an RO. We then find that managerial ownership and institutional ownership have no significant impact on the choice ROs over control diluting issues. We also note the significant coefficient for *PastR* and market condition (*MCond*), suggesting that the probability of a firm conducting an RO is negatively related to past stock market performance but positively related to current market performance.

Estimation 2 reports the results for the probability of a firm choosing a PL. We focus on the variables with a significant coefficient in the Estimation, which is, *Proceeds/MV, Discount, MSO, Institutional OC, Leverage, PastR,* and *MCond*. Both *Proceeds/MV* and *Discount* are negatively related to the choice of a PLs indicating that a smaller issue and a lower discount indicate a higher probability of a UK firm choosing a PL. With respect to the role of *MSO*, the results suggest higher managerial share ownership increases the probability of a firm choosing a placing. This supports the managerial entrenchment hypothesis, where entrenched managers can use placings to reinforce their control of the firm (Barclay et al., 2007). The coefficient of *Institutional OC* suggests that the lower pre-issue institutional ownership, the higher the probability of a firm choosing the placing issue method. This finding is consistent with the argument that firms use placings to improve the monitoring of management (Wruck, 1989).

The large shareholders created by placings have an incentive to monitor and benefit from their monitoring efforts. Furthermore, the benefit of adding such large shareholders should be lower if there are more potential monitors already in place (Cronqvist and Nilsson, 2003; 2005). Therefore, hypotheses 1a and 1b are also supported.

The variable *Leverage* takes on a negative role, where firms with higher debt levels are less likely to issue equity through a placing. A higher leverage level indicates active monitoring by debt holders and therefore firms do not have to choose a placing for monitoring purposes. In addition, investors are unwilling to buy shares in a highly leveraged firm because it has a higher risk of financial distress and bankruptcy. This indicator points to a higher risk of SEO failure. Our results also indicate that firms with better past stock performance tend to select PLs and this issue method is more popular in a cold market.

Estimation3 displays the logistic modelling results for a standalone OO. The coefficients of *Proceeds/MV* and *MSO* are positive and significant. This finding suggests that firms with larger issues and higher managerial ownership are more likely to make OOs. It is noteworthy that *Size* takes on a negative role. Firm size is a proxy for uncertainty and asymmetric information. This result implies that an OO is more likely to be chosen in firms with a higher level of uncertainty and asymmetric information. As shown in panel D, we find that the larger the issue, the higher the offer discount and the more favourable market conditions can increase the probability of a firm making a PLOO. The *Leverage* variable has negative coefficients, indicating that financially distressed firms are less likely to select PLOOs.

By combining the results of the different models, several variables have a significant effect on issue method choice. First are issue characteristics. Firms with larger issues are less likely to choose PLs. A larger offer discount increases the probability of choosing an RO or a PLOO but decreases the likelihood of using a PL. Second is ownership. Firms with higher managerial ownership are more likely to use PLs and OOs, which is consistent with the incentive of

entrenched managers. Lower institutional ownership can raise the probability of a firm using a placing due to enhanced monitoring. Third are the firm variables. Firm size is negatively related to the probability of a firm choosing an OO. Firms with higher leverage are less likely to use PLs and PLOOs. However, our results suggest a firm's return on equity and market-to-book ratio have no effect on the choice of SEO. Fourth are firm-specific and market conditions. Better stock performance, as a potential proxy for firm quality, is associated with a higher probability of choosing PLs and a lower probability of choosing ROs. In a hot market, firms are more likely to choose ROs but less likely to conduct equity issues through PLs. This evidence supports the findings of Stulz et al. (2014).

(Please insert Table 3 here)

To examine the choice of SEO issue method more explicitly, we then applied a binomial logistic regression. The results are consistent with the earlier findings on the probability of a firm choosing various SEO issue methods in *Table 4* but also provide new insights. Firstly, higher offer discount firms prefer to conduct ROs rather than PLOOs. Secondly, when the choice is between a PL and an OO, firms with higher managerial ownership are more likely to conduct SEOs through a PL. This evidence confirms the managerial entrenchment hypothesis. Thirdly, favourable market conditions significantly decrease the probability of a firm choosing a PL or a PLOO. Given that a placing is a proxy for value certification, our result implies that firm equity is overvalued in a hot market.

(Please insert Table 4 here)

Table 5 presents the results of cross-sectional tests on SEO offer price discounts. The

coefficient for proceeds to market value is significantly positive, indicating that the larger the issue size, the higher the discount. This result strongly supports Corwin's (2003) hypotheses of downward-sloping demand and price pressure and the empirical evidence of Armitage et al. (2014) in their study on the link between demand for shares and discounts in UK OOs and PLs. As regards the role of ownership variables in SEO price setting, the coefficients of the two ownership variables *MSO* and *Institutional OC* are all significant. The positive relationship between managerial ownership and offer discounts can be explained by the managerial entrenchment hypothesis. Managers have an incentive to place shares with those buyers who may be passive investors or managerial investors. Thus, a higher discount needs to be used to compensate for lower levels of monitoring (Barclay et al., 2007). However, firms with higher institutional ownership tend to offer a lower discount. Under the monitoring hypothesis, the information asymmetry between managers and shareholders is reduced by the presence of institutional monitors. Moreover, investors are more likely to participate in the PL if the issuer already has active monitors (usually institutional investors), because they can directly benefit from existing monitoring and do not have to be concerned about the free rider problem. Additionally, large institutional holdings imply the stock's value has been approved by institutional investors. Therefore, in this case it is easier for the firm to issue new shares resulting in a lower offer discount.

We also find that smaller firms are more likely to set the discount at a high level. This result implies firms have to offer a deeper discount to compensate for the high level of information asymmetry (e.g. Corwin, 2003). Leverage has a significantly negative effect, which is inconsistent with the theory that high leverage reduces information asymmetry due to monitoring by creditors. This evidence indicates that, to guarantee the success of an SEO, a financially distressed firm must price its offer with a high discount.

Furthermore, our results suggest that a pre-issue stock run-up decreases the offer discount.

Better stock performance reveals positive information to the market, which can increase investor willingness to participate in the SEO. Another important finding is that the offer price discount is higher when the market is hot. This can be explained as equity issues cluster in a hot market, such that the competition among issuers intensifies. Therefore, a firm has to use a higher discount to gain investor attention.

(Please insert Table 5 here)

Table 6 reports the cross-sectional analysis of SEO announcement returns. The dependent variable is defined as the three-day [-1, 1] cumulative abnormal return (CAAR) with respect to the announcement date[11]. Based on the results, the offer price discount is negatively related to the announcement return in all estimations. The offer discount can appear to be a signal of firm quality to the market (e.g. Slovin et al., 2000; Balachandran et al., 2008; Liang and Jang, 2013). Hence, lower price discount signals that the firm has high quality and thus the market response to its SEO will be more favourable, resulting in higher announcement returns.

Regarding the relationship between market performance and ownership structure, the coefficient of *MSO* is negative (-0.027) and statistically significant at the 5% level, suggesting an inverse relationship between managerial share ownership and market reaction. This result can possibly be explained by managerial entrenchment hypothesis. As entrenched managers have more discretion to pursue their own wealth maximising strategies, they could sometimes act against firms' interests; especially if the additional capital is raised via placing the new

[11] We choose Carhart's (1997) four-factor model to estimate the time-series daily portfolio return. Carhart's (1997) four-factor model can be written formally as $R_{it} - R_{ft} = \alpha_i + \beta_i (R_{mt} - R_{ft}) + s_i SMB_t + h_i HML_t + m_i MOM_t + \varepsilon_{it.}$ The author proposed four stock market factors – excess market return $(R_{mt} - R_{ft})$, size (SMB_t), book to market (HML) and momentum (MOM)– that have strong explanatory power for the differences in the average returns across stocks. α_i is the average daily abnormal return (AR) on the portfolio of issuers over the estimated period.

shares with passive investors. In such cases we would expect high MSO to lead to higher discounts and therefore lower announcement returns which is exactly what our results suggest. On the contrary, we find that larger pre-issue institutional ownership leads to a better SEO outcome. The coefficient reported is +0.014 significant at the 5% level. This result can possibly be attributed to the strong monitoring carried out by institutional investors which may press managers into making optimal financing and investment decisions so the rest of the shareholders can benefit from this effort. Therefore, based on these results, hypotheses 2a and 2b are accepted.

Moreover, we find that a higher announcement return can be driven by better pre-issue stock performance. The market condition results suggest that market reactions to announcements are more favourable in a hot market, leading to a lower indirect cost of issuing equity. This finding strongly supports the market timing hypothesis[12]. Firms are market timers. They are more likely to make an issue of seasoned equity when the cost of equity is temporarily low.

To examine whether the issue method can influence market reactions to SEO announcements, we further included four dummy variables (RO, PL, OO, PLOO) in the regressions in of *Table 6*. Consistent with our earlier findings, ROs incur a negative market reaction, while market reactions to PLs are more favourable.

(Please insert Table 6 here)

A potential explanation for the latter result is that a PL is a proxy for firm value certification. Shares in a PL are usually purchased by institutional investors, who are expected to have

[12] Our results corroborate the findings of Dionysiou (2015) which suggest that the market tends to over-react in the case of UK firms conducting *pure* placings and reports weak evidence on the link between PLs and market timing.

superior information about firm value. As a result, the market believes that a placing is less likely to be conducted by an overvalued firm (Eckbo and Masulis, 1992; Cronqvist and Nilsson, 2003).

5. Conclusions

This paper extends the existing knowledge of SEOs' issue methods along the following three lines: the probability of the choices of alternative SEO methods, SEO price setting, and market reactions to SEO announcements. We focused on the influence of firm ownership structure on these issues by constructing two measures, namely, managerial share ownership and institutional ownership.

Using a sample of UK SEOs, we examined how and why firms choose one issue method over another in SEO issuance, differentiating between four major methods, namely, ROs, PLs, OOs, and PLOOs. Our results provide reliable evidence to strongly support the argument that the use of placings can strengthen managerial control (Barclay et al. 2007). Our results also suggest that firms with higher managerial ownership are most likely to choose a placing, consistent with the findings of Barnes and Walker (2006). Institutional ownership, as a proxy for monitoring effects, is negatively associated with the probability of conducting an SEO by means of a PL. Given that a PL can improve the monitoring of management, firms that already have monitors are less likely to implement a placing.

This paper also analyses the role of ownership in SEO price setting. Our results indicate that for issuing firms with a high level of managerial ownership, investors may require large offer price discounts, since the stocks of these firms suffer from lower market liquidity. We also find empirical evidence to support the monitoring hypothesis. Since institutional holdings relate to the verification of firm quality, firms with higher institutional ownership are likely to set the offer price at a higher level (lower discount).

Furthermore, this study examines market reactions to SEOs under alternative ownership structure. Our findings show that SEO announcement returns decrease with managerial ownership as a result of increased agency problems and adverse selection costs. Investors believe that entrenched managers have a strong incentive to issue equity when firms are overvalued. Moreover, institutional ownership has a positive effect on SEO announcement returns, which is also consistent with the monitoring hypothesis.

Notably, our results also strongly support market timing theory. Announcement returns are higher (lower) when SEOs are conducted in a hot (cold) market. Firms are likely to issue equity when the indirect cost is relatively low. Further, firms are likely to choose ROs when the stock market is favourable, while they prefer PLs in a cold market. Since a placing is a value certification, overvalued (undervalued) firms are less (more) likely to choose a placing as the issue method. Our results imply that SEOs in a hot market are likely to be motivated by firm overvaluation.

Appendix: Variable Definitions

Variable	Definition
Issuer characteristics / *Source: Thomson One Banker*	
Discount	1- (OP_t/P_{t-1}), where OP_t is the offer price and $P_{t-1}$is the closing market price on day -1 prior to the announcement day.
Proceeds	Gross proceeds. For missing data, the value is constructed as the number of new shares issue times the offer price.
Proceeds/MV	The ratio of proceeds divided by the issuer's market value.
RO	Dummy that takes the value of one for an RO and of zero otherwise.
PL	Dummy that takes the value of one for a PL and of zero otherwise.
OO	Dummy that takes the value of one for an OO and of zero otherwise.
PLOO	Dummy that takes the value of one for a PLOO and of zero otherwise.
Ownership characteristics / *Source: Thomson One Banker*	
MSO	Managerial share ownership, defined as the sum of the ownership of executive and non-executive directors.
Institutional OC	Institutional ownership concentration, comprised of aggregate blocks of at least 3% of the firm's shares held by all institutional investors.
Firm characteristics / *Source: Datastream*	
MV	Issuer's market value.
Size	Natural logarithm of market value.
ROE	Ratio of net income to the book value of equity.
MV/BV	Ratio of the market value of equity to the book value of equity.
Leverage	Ratio of total debt to total assets.
PastR	Past stock performance, defined as the CAAR for SEO firms during the estimated period [-60, -2] prior to the announcement day.
MCond	Past market condition defined as the cumulative equal-weighted market returns during the estimated period [-60, -2] prior to the announcement day.

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Table 1 - Trends in UK SEO Issue Methods, 1998–2012

This table presents the annual number of SEOs listed on the LSE from 1 January 1998 to 31 December 2012. The whole sample of SEOs is categorized into four subsamples by issue type: ROs, PLs, OOs, and PLOOs.

Year	**RO**	**PL**	**OO**	**PLOO**	**Total**	**RO%**	**PL%**	**OO%**	**PLOO%**	**Total%**
1998	7	5	1	5	18	38.89	27.78	5.56	27.78	100
1999	8	9	1	4	22	36.36	40.91	4.55	18.18	100
2000	14	15	2	10	41	34.15	36.59	4.88	24.39	100
2001	18	43	7	10	78	23.08	55.13	8.97	12.82	100
2002	9	7	9	11	36	25.00	19.44	25.00	30.56	100
2003	10	9	3	20	42	23.81	21.43	7.14	47.62	100
2004	10	9	7	25	51	19.61	17.65	13.73	49.02	100
2005	17	5	1	32	55	30.91	9.09	1.82	58.18	100
2006	14	12	2	19	47	29.79	25.53	4.26	40.43	100
2007	12	10	7	4	33	36.36	30.30	21.21	12.12	100
2008	3	26	2	1	32	9.38	81.25	6.25	3.13	100
2009	31	98	7	6	142	21.83	69.01	4.93	4.23	100
2010	3	43	5	5	56	5.36	76.79	8.93	8.93	100
2011	4	9	6	6	25	16.00	36.00	24.00	24.00	100
2012	2	8	3	6	19	10.53	42.11	15.79	31.58	100
Total	**162**	**308**	**63**	**164**	**697**	**23.24**	**44.19**	**9.04**	**23.53**	**100**

Table 2 - Issue and Firm Characteristics of SEOs

This table presents the mean, median, and standard deviation of issue (Panel A) and firm characteristics (Panel B) for UK SEOs (excluding utilities and financials) from 1998 to 2012 All SEOs are divided into four subsamples, by issue type, that is, ROs, PLs, OOs, and PLOOs. Issue characteristics are obtained from Thomson One Banker. Financial factors are obtained from Datastream. In this table, Proceeds is the SEO offer amount in millions of British pounds; discount is defined as 1- (OP_t/P_{t-1}), where OP_t is the offer price and P_{t-1} is the closing market price on day -1 prior to the announcement day; OC is the sum of shares held by block holders with at least a 3% share stake; MSO represents managerial share ownership, defined as the sum of the ownership of executive and nonexecutive directors; Institutional OC comprises aggregate blocks of at least 3% of the firm's shares held by all institutional investors; MV is the market value of the firm's equity; ROE is the ratio of net income over the book value of equity; MV/BV is the ratio of the market value of equity to the book value of equity; and leverage is the ratio of total debt to total assets.

	RO		PL		OO		PLOO		Total	
Variable	**Mean**	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**
Panel A Issue characteristics										
Proceeds (£mil)	104.991	108.069	84.479	95.848	64.722	93.960	92.798	115.855	89.569	103.380
Discount (%)	17.850	16.686	8.350	8.765	10.770	13.540	15.430	13.530	12.468	12.183
Panel B SEO firm characteristics										
MSO (%)	6.415	13.330	12.230	19.835	5.070	8.939	7.089	12.474	9.031	15.625
Institution OC (%)	35.628	26.152	33.693	22.121	31.435	23.757	32.504	23.216	33.710	23.501
MV (£mil)	889.747	1214.850	811.926	1768.850	603.738	1718.810	1267.430	2259.500	954.039	1507.945
ROE (%)	13.110	16.950	3.450	11.010	10.050	14.480	5.731	28.520	6.847	16.849
MV/BV	3.053	4.510	2.671	3.376	2.618	2.765	3.426	3.305	2.937	3.574
Leverage (%)	0.280	0.226	0.245	0.200	0.269	0.214	0.208	0.200	0.247	0.208
No. of Obs.	162		308		63		164		697	

Table 3 - Logistic Regression of SEO Issue Method Choices

This table reports the results of modelling the probability of choosing one of four alternative SEO methods, using a multivariate logistic regression, calculated as

$$RO/PL/OO/PLOO = \alpha + \beta_1 Proceeds/MV + \beta_2 Discount + \beta_3 MSO + \beta_4 InstitutionalOC + \beta_5 Size + \beta_6 ROE + \beta_7 MV/BV + \beta_8 Leverage + \beta_9 PastR + \beta_{10} MCond$$

Where dependent variable in Estimation1/2/3/4 is one for firms choosing ROs/PLs/OOs/PLOOs and zero for firms choosing other issue methods; *Proceeds/MV* is the SEO offer amount divided by the market value of equity; *Discount* is defined as 1- (OP_t/P_{t-1}), where OP_t is the offer price and P_{t-1} is the closing market price on day -1 prior to the announcement day; *MSO* represents managerial share ownership, defined as the sum of the ownership of executive and nonexecutive directors; *Institutional OC* comprises aggregate blocks of at least 3% of the firm's shares held by all institutional investors; *Size* is the log of the market value of equity; *ROE* is the ratio of net income over the book value of equity; *MV/BV* is the ratio of the market value of equity to the book value of equity; *Leverage* is the ratio of total debt to total assets; *PastR* is past stock performance, which is defined as the CAAR for SEO firms during the estimated period [-60, -2] prior to the announcement day; and, finally, *MCond* is defined as cumulative equal-weighted market returns for the same estimated period. The sample comprises 697 UK SEOs during 1998–2012. All regressions include year and industry fixed effects. The p-values for the chi-squared test statistic are shown in square brackets. The superscripts ***,**, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Estimation 1		**Estimation 2**		**Estimation 3**		**Estimation 4**	
Variables	**RO versus Others**		**PL versus Others**		**OO versus Others**		**PLOO versus Others**	
	Coefficient	**p-Value**	**Coefficient**	**p-Value**	**Coefficient**	**p-Value**	**Coefficient**	**p-Value**
Intercept	-0.470***	[0.000]	0.605	[0.622]	-1.225***	[0.004]	-2.036***	[0.000]
Proceeds/MV	0.059**	[0.034]	-0.202***	[0.002]	0.311**	[0.044]	0.289***	[<.0001]
Discount	0.220**	[0.032]	-0.460*	[0.092]	-0.188	[0.845]	0.558*	[0.096]
MSO	0.065	[0.307]	0.019**	[0.043]	0.034**	[0.003]	-0.015	[0.111]
Institutional OC	0.091	[0.139]	-0.075**	[0.027]	-0.016	[0.807]	-0.069	[0.525]
Size	-0.038	[0.383]	0.056	[0.140]	-0.276**	[0.013]	0.133	[0.460]
ROE (%)	0.038	[0.150]	-0.081	[0.762]	0.021	[0. 221]	-0.055	[0.940]
MV/BV	0.093	[0.231]	-0.036	[0.544]	0.032	[0.149]	-0.172	[0.405]
Leverage	0.344	[0.521]	-1.110**	[0.032]	-0.188	[0.787]	-1.298***	[0.008]
PastR	-1.469**	[0.028]	1.512***	[0.000]	2.331	[0.598]	2.421	[0.449]
MCond	8.967***	[0.000]	-2.100**	[0.013]	-2.398	[0.122]	3.506***	[0.009]
Pseudo-R^2	0.132		0.158		0.133		0.137	

Table 4 - Binomial Logistic Regression of SEO Issue Method Choices

This table reports the results of modelling the probability of choosing one of four alternative SEO methods, using a binomial logistic regression, calculated as

$$RO/PL/OO/PLOO = \alpha + \beta_1 Proceeds/MV + \beta_2 Discount + \beta_3 MSO + \beta_4 InstitutionalOC + \beta_5 Size + \beta_6 ROE + \beta_7 MV/BV + \beta_8 Leverage + \beta_9 PastR + \beta_{10} MCond$$

where *Proceeds/MV* is the SEO offer amount divided by the market value of equity; *Discount* is defined as 1- (OP_t/P_{t-1}), where OP_t is the offer price and P_{t-1} is the closing market price on day -1 prior to the announcement day; *MSO* represents managerial share ownership, defined as the sum of the ownership of executive and nonexecutive directors; *Institutional OC* comprises aggregate blocks of at least 3% of the firm's shares held by all institutional investors; *Size* is the log of the market value of equity; *ROE* is the ratio of net income over the book value of equity; *MV/BV* is the ratio of the market value of equity to the book value of equity; *Leverage* is the ratio of total debt to total assets; *PastR* is past stock performance, which is defined as the CAAR for SEO firms during the estimated period [-60, -2] prior to the announcement day; and, finally, *MCond* is defined as cumulative equal-weighted market returns for the same estimated period. The sample comprises 697 UK SEOs during 1998-2012. All regressions include year and industry fixed effects. The p-values for the chi-squared test statistic are shown in square brackets. The superscripts ***,**, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	**RO versus PL**		**RO versus OO**		**RO versus PLOO**		**PL versus OO**		**PL versus PLOO**		**OO versus PLOO**	
	Coefficient	**p-Value**	**Coefficient**	**p-Value**	**Coefficient**	**p-Value**	**Coefficient**	**p-Value**	**Coefficient**	**p-Value**	**Coefficient**	**p-Value**
Intercept	-2.150***	[0.008]	-0.258	[0.805]	-0.551**	[0.035]	1.892*	[0.083]	1.599**	[0.042]	-0.293	[0.780]
Proceeds/MV	1.002**	[0.027]	0.123*	[0.058]	0.151**	[0.014]	-0.989*	[0.096]	-1.211	[0.014]	0.221	[0.755]
Discount	0.480**	[0.038]	0.323	[0.635]	0.631*	[0.091]	-0.157	[0.795]	0.151	[0.576]	0.308	[0.600]
MSO	-0.012**	[0.037]	-0.018	[0.112]	-0.060	[0.583]	0.029**	[0.030]	0.052	[0.673]	-0.024**	[0.040]
Institutional OC	0.124**	[0.028]	0.165	[0.854]	0.399*	[0.037]	0.031*	[0.067]	0.025	[0.828]	0.056	[0.533]
Size	0.403***	[0.000]	0.178*	[0.066]	-0.234	[0.352]	0.581***	[0.000]	-0.168	[0.117]	-0.413**	[0.010]
ROE (%)	0.013	[0.397]	0.145	[0.498]	0.010	[0.532]	0.013	[0.129]	-0.030	[0.871]	-0.013	[0.120]
MV/BV	0.357	[0.448]	-0.259	[0.742]	0.261	[0.554]	0.097	[0.902]	0.096	[0.821]	-0.015	[0.900]
Leverage	0.337**	[0.015]	0.611	[0.526]	1.711	[0.317]	-0.274	[0.779]	-1.374**	[0.040]	-1.100	[0.265]
PastR	-1.436***	[0.000]	1.613	[0.685]	1.207	[0.455]	1.175*	[0.080]	-1.115**	[0.013]	-1.594	[0.729]
MCond	4.172***	[0.000]	-3.134	[0.699]	5.361***	[0.000]	-4.359***	[0.001]	1.439	[0.251]	5.503**	[0.012]
Pseudo-R^2						0.118						

Table 5 - Cross-Sectional Regression Analysis of SEO Offer Price Discounts

This table presents the regression results of the SEO discount on issuer financial variables, ownership variables, and market conditions for UK SEOs from 1998 to 2012, estimated as

$$Discount = \alpha + \beta_1 Proceeds/MV + \beta_3 MSO + \beta_4 InstitutionalOC + \beta_4 Size + \beta_5 ROE + \beta_6 MV/BV + \beta_7 Leverage + \beta_8 PastR + \beta_9 MCond$$

where *Discount* is defined as 1- (OP_t/P_{t-1}), where OP_t is the offer price and P_{t-1} is the closing market price on day -1 prior to the announcement day; *Proceeds/MV* is the SEO offer amount divided by the market value of equity; *OC* is the sum of shares held by block holders with at least a 3% share stake; *MSO* represents managerial share ownership, defined as the sum of the ownership of executive and nonexecutive directors; *Institutional OC* comprises aggregate blocks of at least 3% of the firm's shares held by all institutional investors; *Size* is the log of the market value of equity; *ROE* is the ratio of net income over the book value of equity; *MV/BV* is the ratio of the market value of equity to the book value of equity; *Leverage* is the ratio of total debt to total assets; *PastR* is past stock performance, which is defined as the CAAR for SEO firms during the estimated period [-60, -2] prior to the announcement day; and finally, *MCond* is defined as cumulative equal-weighted market returns for the same estimated period. All regressions include year and industry fixed effects. The sample comprises 697 UK SEOs during 1998–2012. The p-values for the chi-squared test statistic are shown in square brackets. The superscripts ***,**, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	Coefficient	p-Value
Intercept	0.300***	[<.0001]
Proceeds/MV	0.827***	[0.004]
MSO	0.026***	[0.008]
Institutional OC	-0.010***	[0.000]
Size	-0.250**	[0.013]
ROE (%)	-0.024	[0.692]
MV/BV	-0.712	[0.313]
Leverage	0.997*	[0.039]
PastR	-7.440**	[0.013]
MCond	3.476***	[0.003]
Pseudo-R^2	0.125	

Table 6 - Cross-Sectional Regression Analysis of SEO Announcement Returns

This table presents the regression results of the three-day average excess returns(CAAR[-1,1]) on issuer financial variables, ownership variables, and market conditions for UK SEOs from 1998 to 2012, estimated as:

$$CAAR[-1,1] = \alpha + \beta_1 Proceeds/MV + \beta_2 Discount + \beta_3 MSO + \beta_4 InstitutionalOC + \beta_5 Size + \beta_6 ROE + \beta_7 MV/BV + \beta_8 Leverage + \beta_9 PastR + \beta_{10} MCond + \beta_{11} RO/PL/OO/PLOO$$

where *Proceeds/MV* is the SEO offer amount divided by the market value of equity; *Discount* is defined as 1- (OP_t/P_{t-1}), where OP_t is the offer price and P_{t-1} is the closing market price on day -1 prior to the announcement day; *MSO* represents managerial share ownership, defined as the sum of the ownership of executive and nonexecutive directors; *Institutional OC* comprises aggregate blocks of at least 3% of the firm's shares held by all institutional investors; *Size* is the log of the market value of equity; *ROE* is the ratio of net income over the book value of equity; *MV/BV* is the ratio of the market value of equity to the book value of equity; *Leverage* is the ratio of total debt to total assets; *PastR* is past stock performance, which is defined as the CAAR for SEO firms during the estimated period [-60, -2] prior to the announcement day; and, finally, *MCond* is defined as cumulative equal-weighted market returns for the same estimated period. All regressions include year and industry fixed effects. The p-values for the chi-squared test statistic are shown in square brackets. The superscripts ***,**, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7 (continued)

Variables	Estimation 1		Estimation 2		Estimation 3		Estimation 4	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.162	[0.284]	0.157	[0.312]	0.185	[0.231]	0.179	[0.243]
Proceeds/MV	0.105	[0.187]	0.156	[0.420]	0.082	[0.298]	0.085	[0.284]
Discount	-0.205*	[0.074]	-0.203*	[0.075]	-0.196*	[0.076]	-0.160*	[0.080]
MSO	-0.024**	[0.011]	-0.026**	[0.010]	-0.018**	[0.010]	-0.037**	[0.010]
Institutional OC	0.014**	[0.028]	0.014**	[0.028]	0.014	[0.027]	0.014*	[0.030]
Size	0.437*	[0.095]	0.365*	[0.095]	0.399*	[0.067]	0.353*	[0.094]
ROE (%)	-0.151	[0.647]	-0.160	[0.631]	-0.019	[0.597]	-0.016	[0.619]
MV/BV	-0.104	[0.259]	-0.101	[0.283]	-0.100	[0.281]	-0.100	[0.286]
Leverage	0.094	[0.489]	0.110	[0.421]	0.111	[0.413]	-0.088	[0.521]
PastR	2.214*	[0.079]	2.524*	[0.057]	2.503*	[0.058]	2.497*	[0.056]
MCond	4.349**	[0.033]	4.185*	[0.086]	4.380**	[0.020]	4.620**	[0.024]
RO	-0.013**	[0.027]						
PL			0.072**	[0.018]				
OO					0.013	[0.163]		
PLOO							-0.069	[0.244]
Adjusted R^2	0.052		0.053		0.054		0.051	